Alg. 2 Warm Up # 9-2

Solve.
Think about the best approach.

1. $\frac{x+6}{2x} - 4 = \frac{10}{x}$

2. $\frac{5}{x-4} + \frac{6}{x} = 2 + \frac{11}{x}$

3. $\log_6 42 + \log_6 2 = \log_6(x+1) + \log_6(x-3)$

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1. $\frac{2x}{1}\left(\frac{x+6}{2x} - 4\right) = \frac{10}{x} \cdot \frac{2x}{1}$

$\frac{2x}{1} \cdot \frac{(x+6)}{2x} - 4(2x) = \frac{20x}{x}$

$x + 6 - 8x = 20$

$-7x = 14$

$x = -2$

2. $\frac{5}{x-4} + \frac{6}{x} = 2 + \frac{11}{x}$

$-\frac{6}{x}$ $-\frac{6}{x}$

$\frac{5}{x-4} = \frac{2}{1} \cdot \frac{x}{x} + \frac{5}{x}$

$\frac{5}{x-4} = \frac{2x+5}{x}$

$(2x+5)(x-4) = 5x$

$2x^2 - 8x + 5x - 20 = 5x$

$-5x$ $-5x$

HW Questions: CP 8B #1-20

4) $\left(\sqrt{3x+13}\right)^2 = (x+5)^2$

$3x+13 = x^2+10x+25$

$0 = x^2+7x+12$

$0 = (x+3)(x+4)$

$x = -3, -4$

$\sqrt{3(-3)+13} \stackrel{?}{=} -3+5$

$\sqrt{-9+13} \stackrel{?}{=} 2$

$\sqrt{4} = 2 \checkmark$

$\sqrt{3(-4)+13} \stackrel{?}{=} -4+5$

$\sqrt{1} = 1 \checkmark$

9) $\sqrt{y+7}+5 = y$

$\left(\sqrt{y+7}\right)^2 = (y-5)^2$

$y+7 = y^2-10y+25$

$0 = y^2-11y+18$

$(\quad)(\quad)$

$(a-b)^2$

$a^2-2ab+b^2$

20) $(\sqrt{x}+2)^2=(\sqrt{x+6})^2$

$x+4\sqrt{x}+4=x+6$

$\frac{4\sqrt{x}}{4}=\frac{2}{4}$

$(\sqrt{x})^2=(\frac{1}{2})^2$

$\boxed{x=\frac{1}{4}}$

$\sqrt{\frac{1}{4}}+2\overset{?}{=}\sqrt{\frac{1}{4}+\frac{6}{1}\cdot\frac{4}{4}}$

$\frac{1}{2}+\frac{4}{2}$ $=\sqrt{\frac{1}{4}+\frac{24}{4}}$

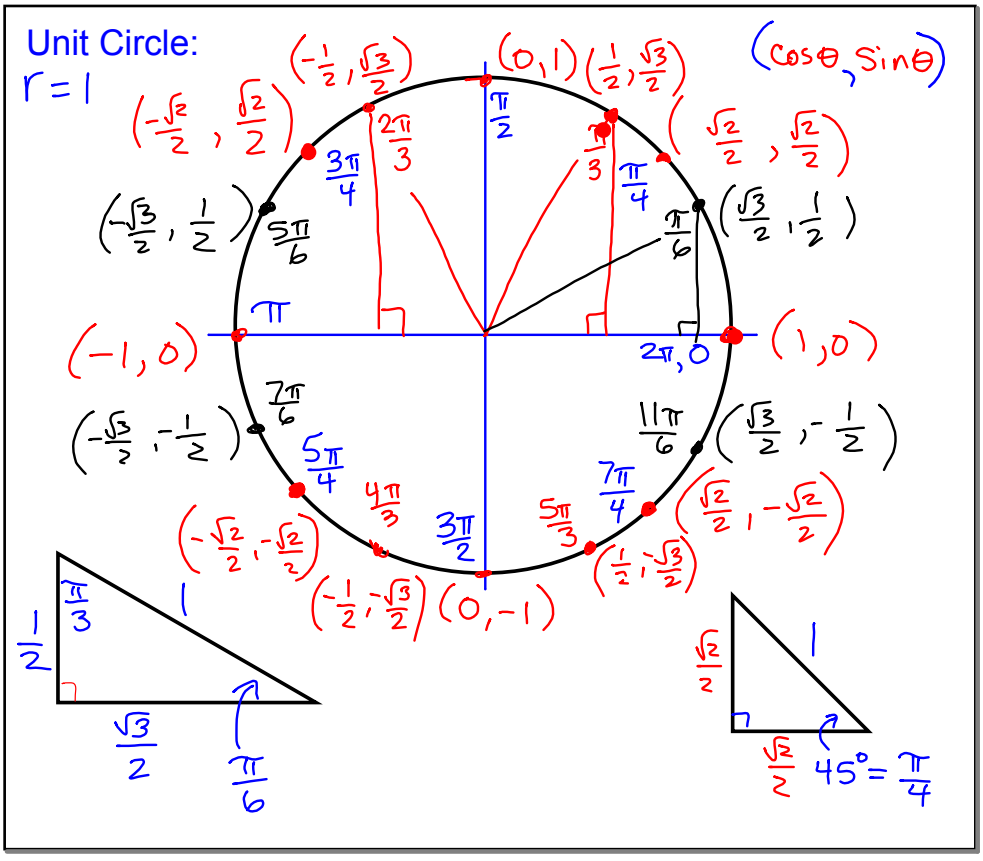
$\sqrt{\frac{25}{4}}$

$\frac{5}{2}=\frac{5}{2}$ ✓

Today's Classwork

1) Building a Unit Circle practice

2) Solving a mixed function equation by graphing



Classwork

Graphing Calculator Equation Solving

1) $2^x = 2x + 1$

2) $3 + (0.5)^x = \frac{1}{3}x + 2$

3) $x^2 - 2x + 1 = 3 + (0.5)^x$

4) $\sqrt{x+5} = \frac{1}{5}(2)^x$

HW: Yellow WS

Solving Equations

Short quiz Friday:

Build a Unit Circle from Memory